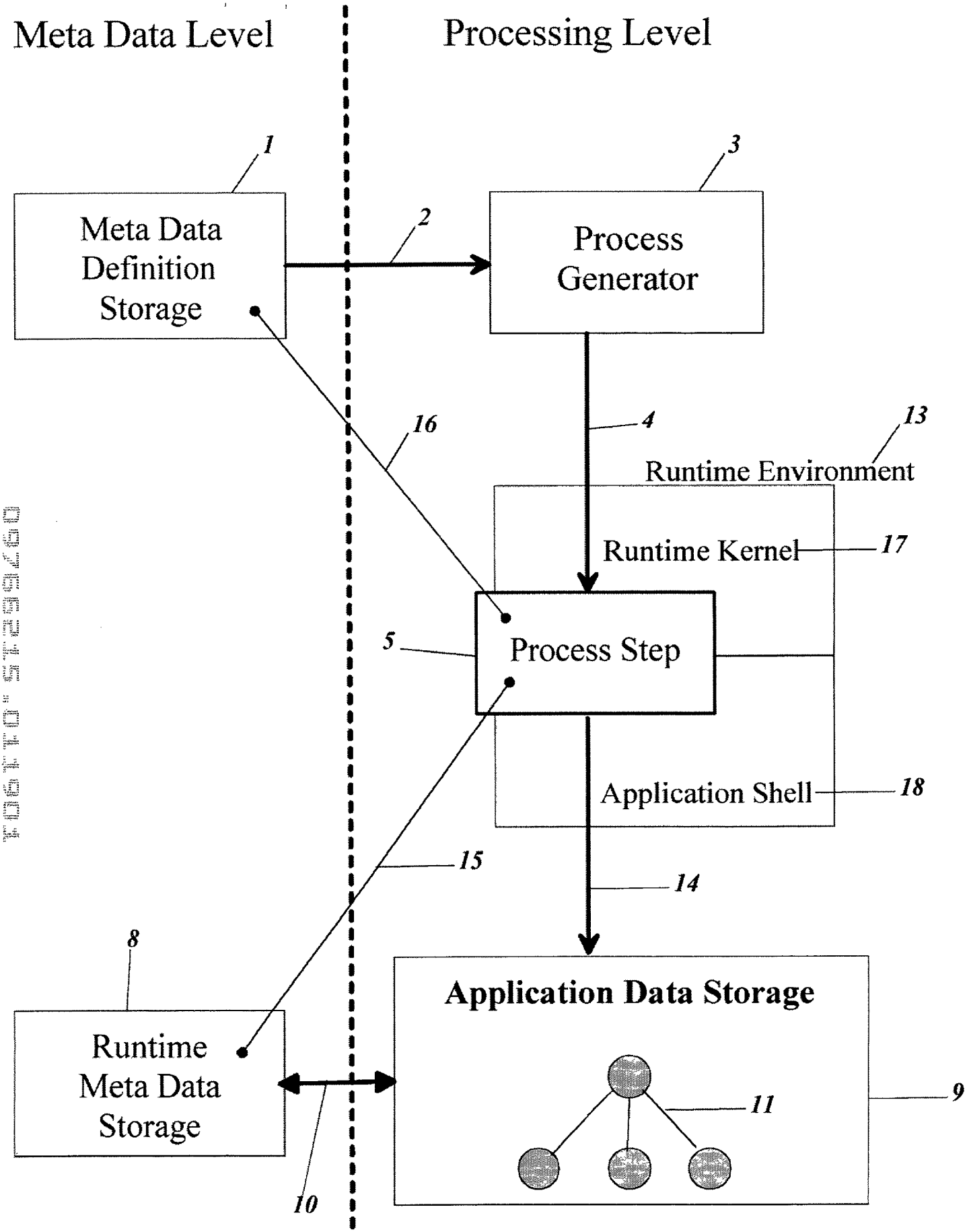
Meta Data Level
Processing Level
1
Meta Data Definition Storage
2
3
Process Generator
4
13
Runtime Environment
16
Runtime Kernel
17
5
Process Step
Application Shell
18
15
14
8
Application Data Storage
Runtime Meta Data Storage
11
9
10

Figure 1

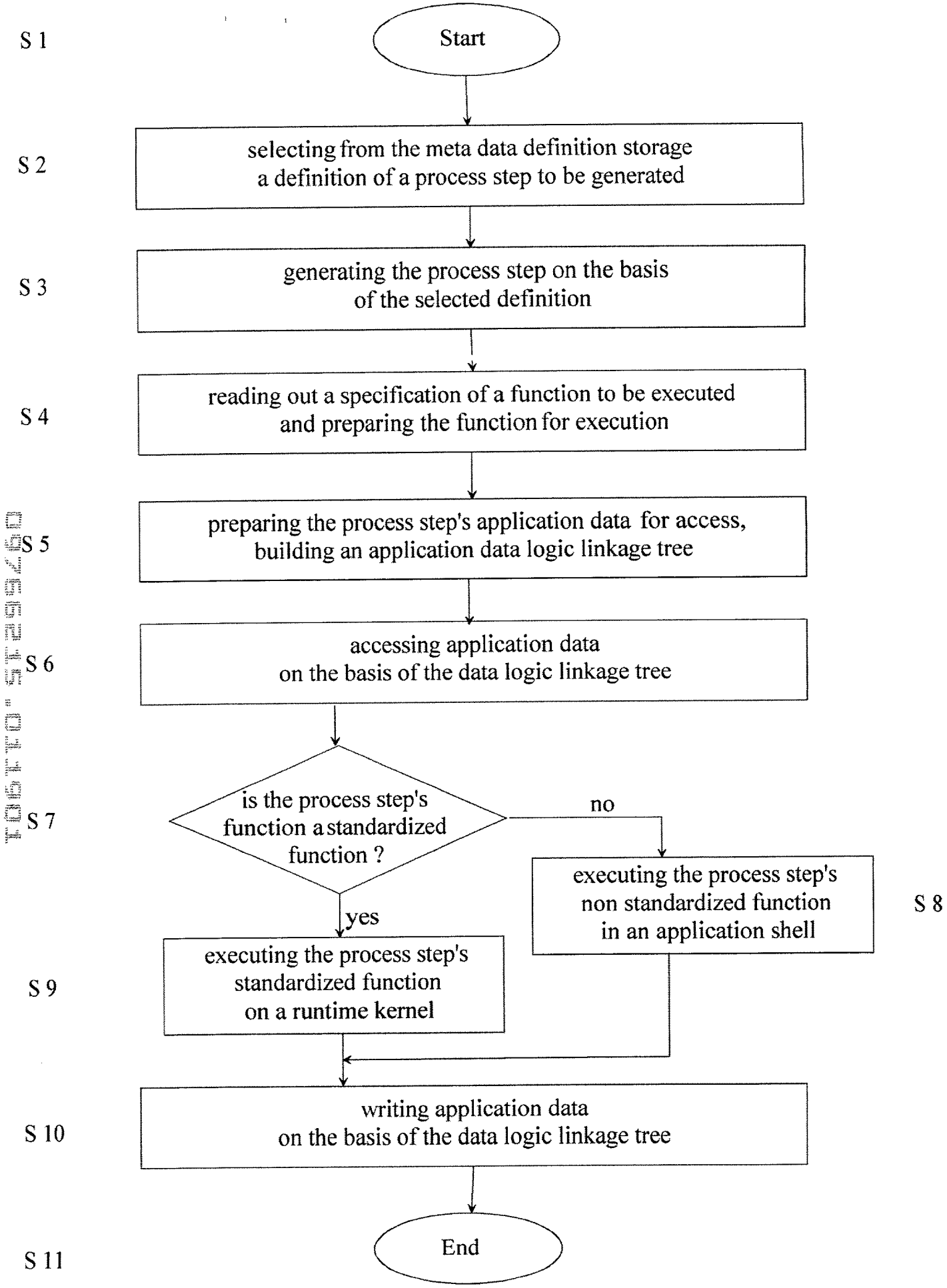
S 1
Start
S 2
selecting from the meta data definition storage
a definition of a process step to be generated
S 3
generating the process step on the basis
of the selected definition
S 4
reading out a specification of a function to be executed
and preparing the function for execution
S 5
preparing the process step's application data for access,
building an application data logic linkage tree
S 6
accessing application data
on the basis of the data logic linkage tree
S 7
is the process step's
function a standardized
function ?
no
S 8
executing the process step's
non standardized function
in an application shell
yes
S 9
executing the process step's
standardized function
on a runtime kernel
S 10
writing application data
on the basis of the data logic linkage tree
S 11
End

Figure 2

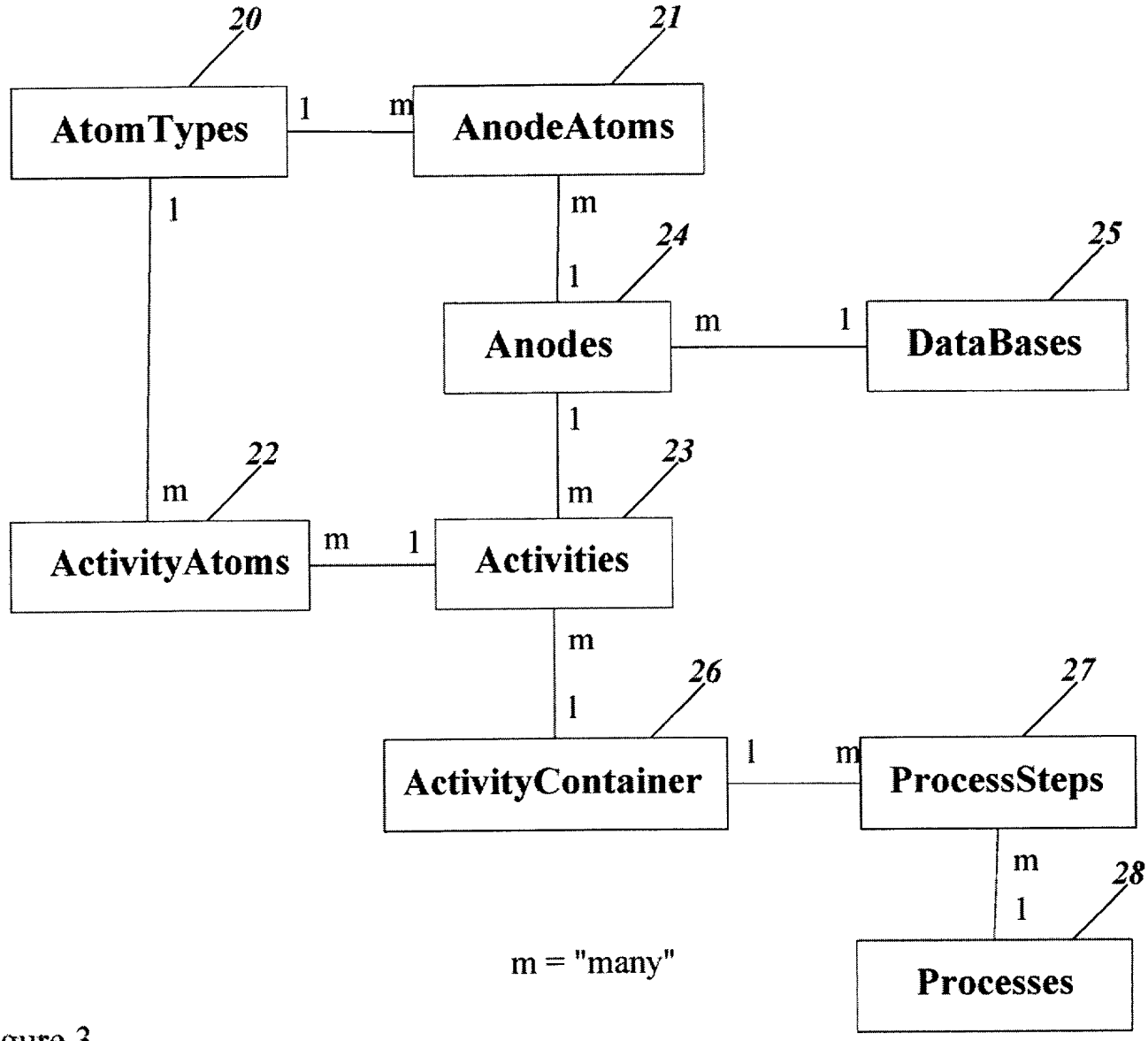
20
21
AtomTypes
1
m
AnodeAtoms
1
m
24
25
1
Anodes
m
1
DataBases
1
22
23
m
m
ActivityAtoms
m
1
Activities
m
26
27
1
ActivityContainer
1
m
ProcessSteps
m
28
1
m = "many"
Processes

Figure 3

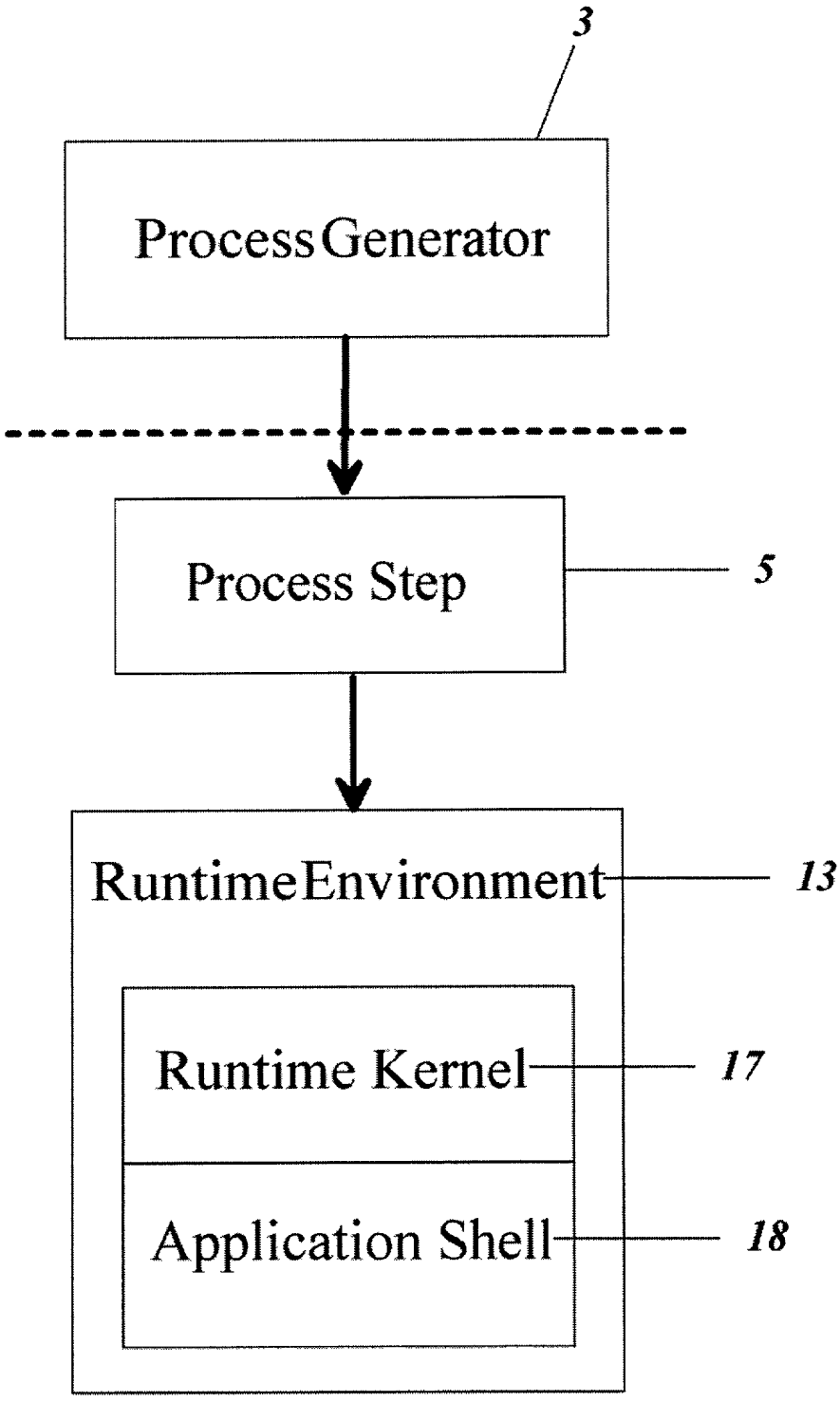
3
Process Generator
Process Step
5
Runtime Environment
13
Runtime Kernel
17
Application Shell
18

Figure 4

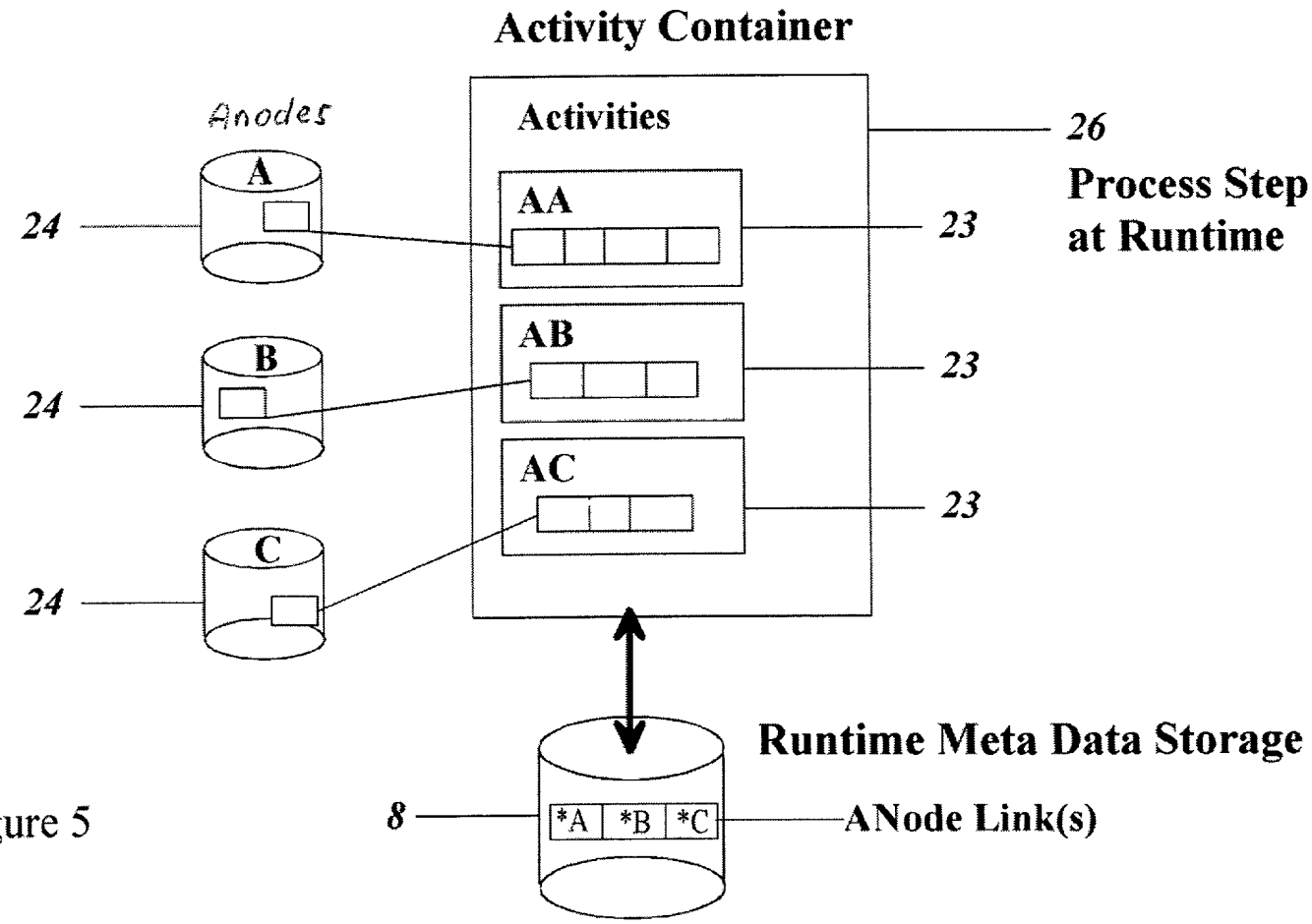
Activity Container
Anodes
Activities
26
Process Step at Runtime
A
24
AA
23
B
24
AB
23
C
24
AC
23
Runtime Meta Data Storage
8
*A
*B
*C
ANode Link(s)

Figure 5

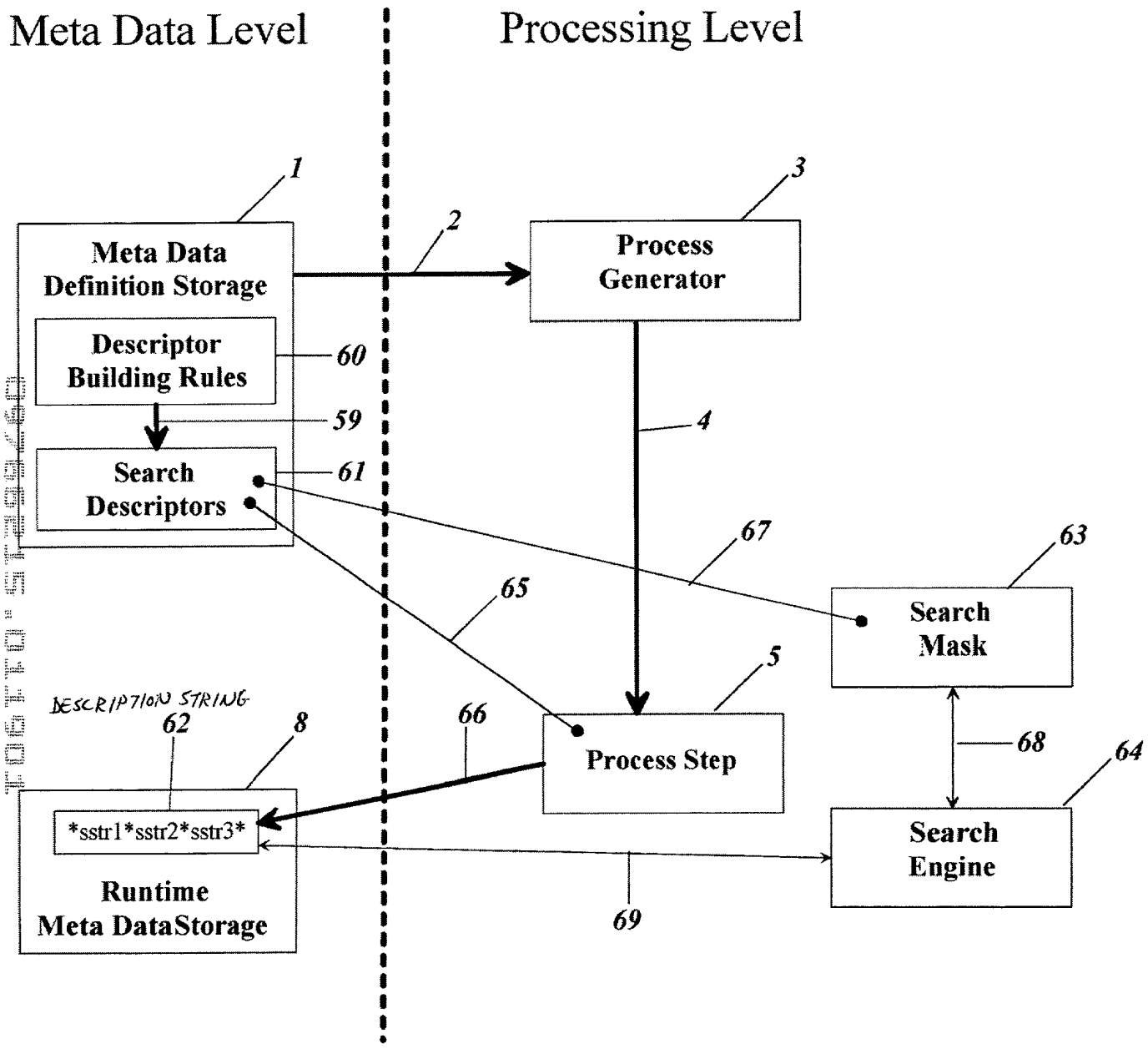
Meta Data Level
Processing Level
1
2
3
Meta Data Definition Storage
Descriptor Building Rules
60
59
Search Descriptors
61
Process Generator
4
67
63
65
Search Mask
5
DESCRIPTION STRING
62
8
66
Process Step
68
64
*sstr1*sstr2*sstr3*
Search Engine
Runtime Meta DataStorage
69

Figure 6

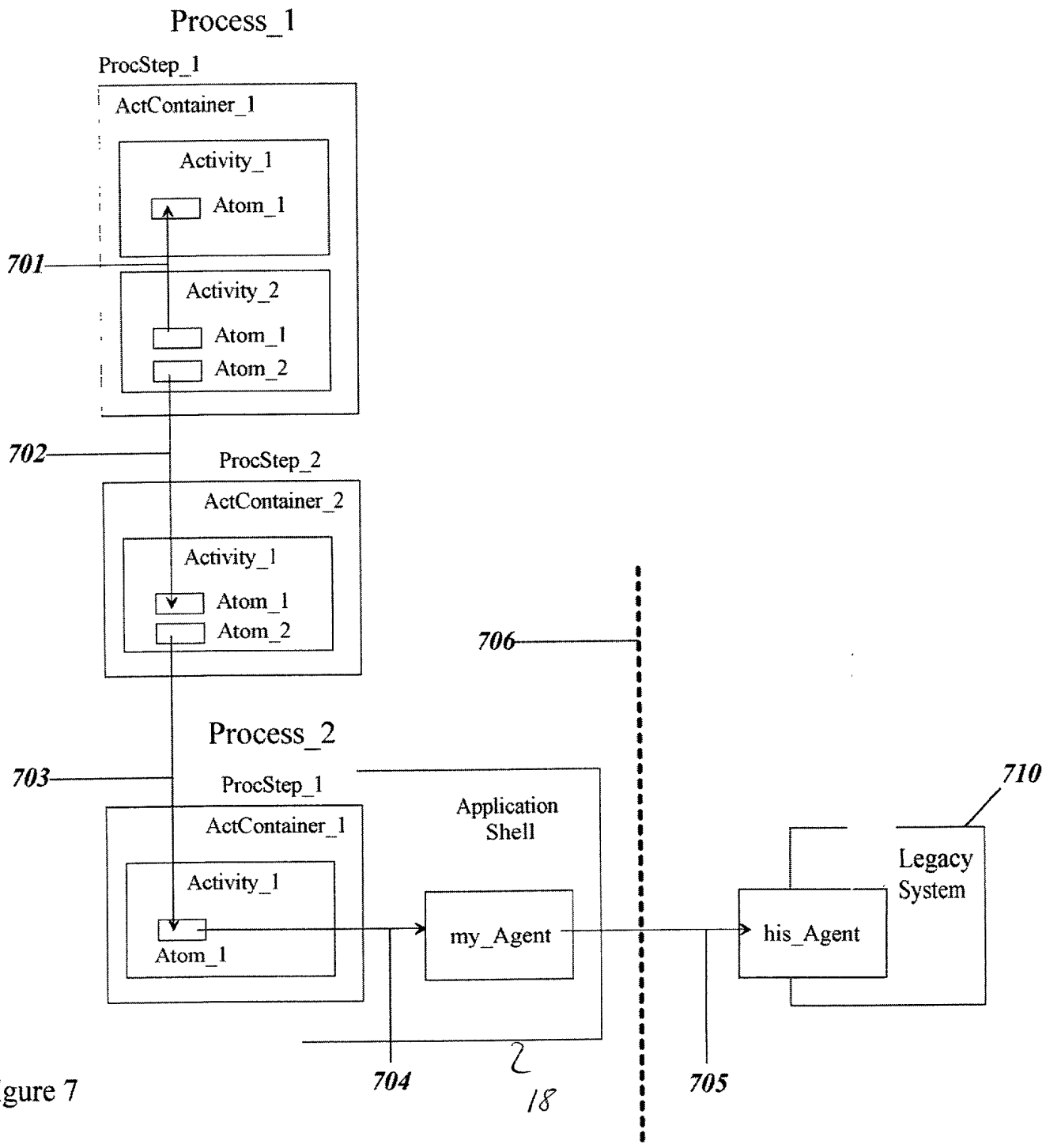
Process_1
ProcStep_1
ActContainer_1
Activity_1
Atom_1
701
Activity_2
Atom_1
Atom_2
702
ProcStep_2
ActContainer_2
Activity_1
Atom_1
Atom_2
706
Process_2
703
ProcStep_1
ActContainer_1
Activity_1
Atom_1
Application Shell
my_Agent
his_Agent
710
Legacy System
704
705

Figure 7

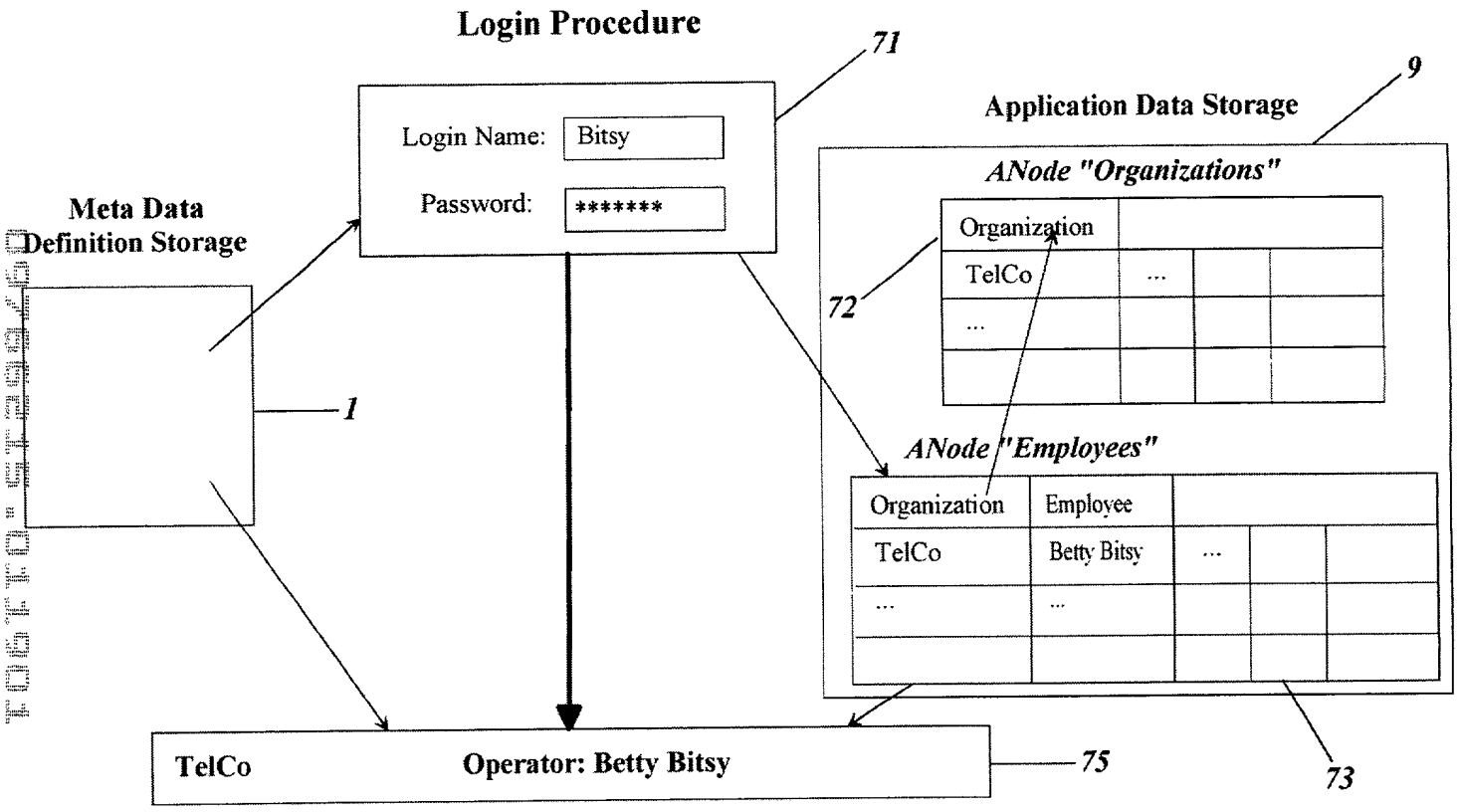
Login Procedure
71
Login Name:
Bitsy
Password:
****
Application Data Storage
9
ANode "Organizations"
Organization
TelCo
...
72
Meta Data
Definition Storage
1
ANode "Employees"
Organization
Employee
TelCo
Betty Bitsy
...
TelCo
Operator: Betty Bitsy
75
73

Figure 8

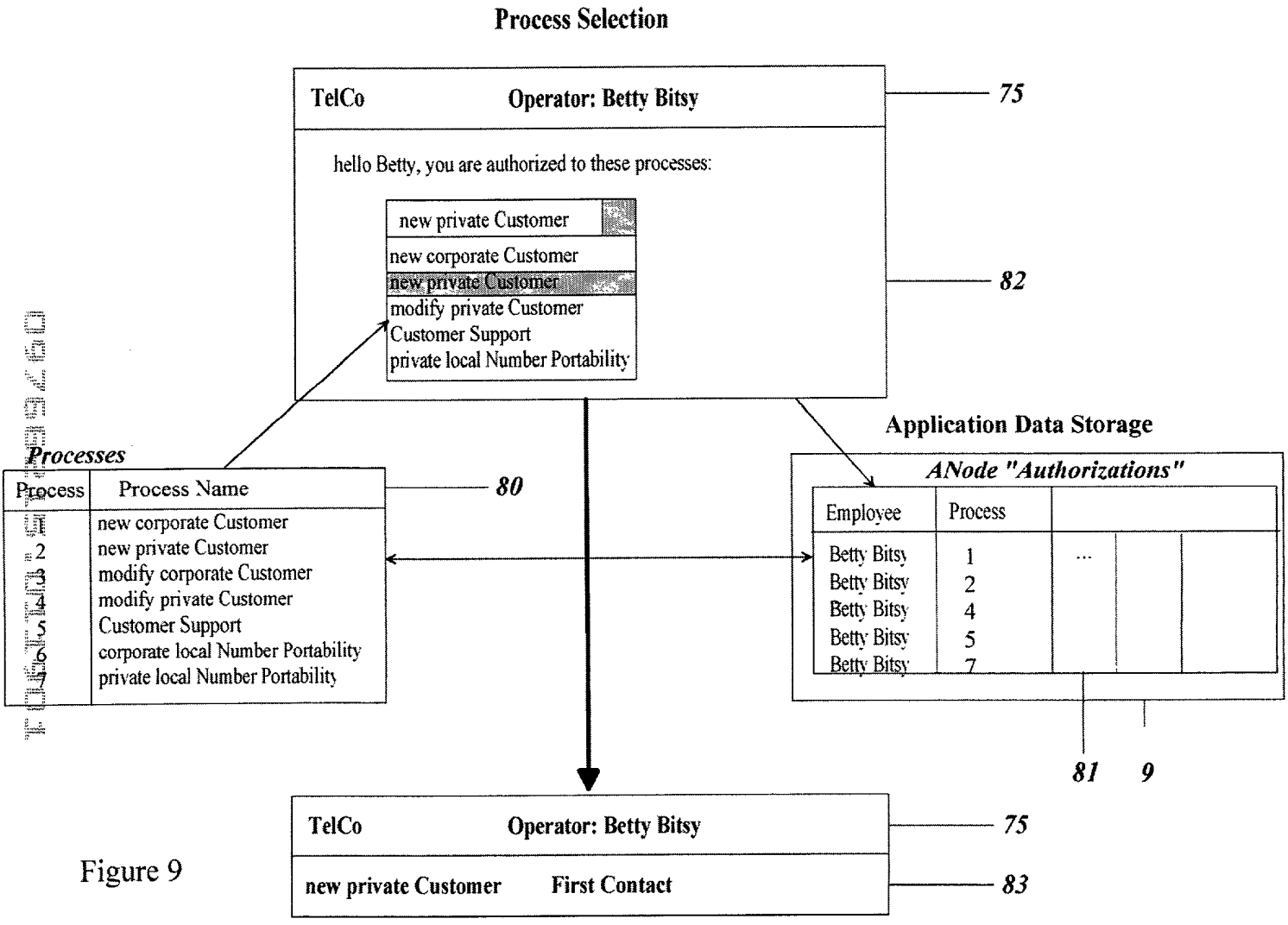
Process Selection
TelCo
Operator: Betty Bitsy
75
hello Betty, you are authorized to these processes:
new private Customer
new corporate Customer
new private Customer
modify private Customer
Customer Support
private local Number Portability
82
Application Data Storage
ANode "Authorizations"
Employee
Process
Betty Bitsy 1
Betty Bitsy 2
Betty Bitsy 4
Betty Bitsy 5
Betty Bitsy 7
...
81
9
Processes
Process
Process Name
80
1 new corporate Customer
2 new private Customer
3 modify corporate Customer
4 modify private Customer
5 Customer Support
6 corporate local Number Portability
7 private local Number Portability
TelCo
Operator: Betty Bitsy
75
new private Customer
First Contact
83

Figure 9

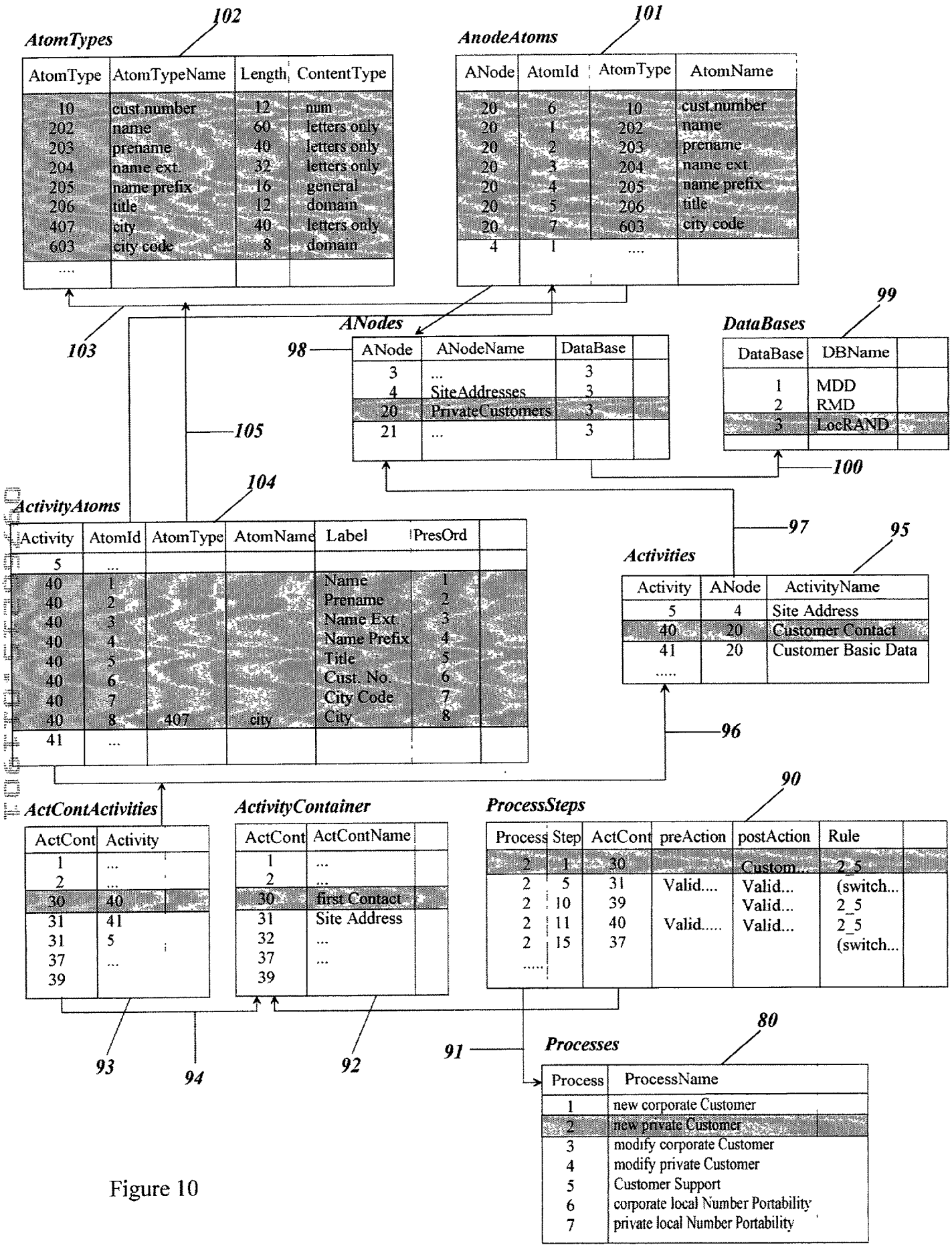
MetaData Definition Storage
AtomTypes
102
AtomType | AtomTypeName | Length | ContentType
10 | cust.number | 12 | num
202 | name | 60 | letters only
203 | prename | 40 | letters only
204 | name ext. | 32 | letters only
205 | name prefix | 16 | general
206 | title | 12 | domain
407 | city | 40 | letters only
603 | city code | 8 | domain
AnodeAtoms
101
ANode | AtomId | AtomType | AtomName
20 | 6 | 10 | cust.number
20 | 1 | 202 | name
20 | 2 | 203 | prename
20 | 3 | 204 | name ext.
20 | 4 | 205 | name prefix
20 | 5 | 206 | title
20 | 7 | 603 | city code
4 | 1 | ....
103
ANodes
98
ANode | ANodeName | DataBase
3 | ... | 3
4 | SiteAddresses | 3
20 | PrivateCustomers | 3
21 | ... | 3
DataBases
99
DataBase | DBName
1 | MDD
2 | RMD
3 | LocRAND
100
105
ActivityAtoms
104
Activity | AtomId | AtomType | AtomName | Label | PresOrd
5 | ...
40 | 1 | | | Name | 1
40 | 2 | | | Prename | 2
40 | 3 | | | Name Ext. | 3
40 | 4 | | | Name Prefix | 4
40 | 5 | | | Title | 5
40 | 6 | | | Cust. No. | 6
40 | 7 | | | City Code | 7
40 | 8 | 407 | city | City | 8
41 | ...
97
Activities
95
Activity | ANode | ActivityName
5 | 4 | Site Address
40 | 20 | Customer Contact
41 | 20 | Customer Basic Data
.....
96
ActContActivities
ActCont | Activity
1 | ...
2 | ...
30 | 40
31 | 41
31 | 5
37 | ...
39
ActivityContainer
ActCont | ActContName
1 | ...
2 | ...
30 | first Contact
31 | Site Address
32 | ...
37 | ...
39
ProcessSteps
90
Process | Step | ActCont | preAction | postAction | Rule
2 | 1 | 30 | | Custom... | 2_5
2 | 5 | 31 | Valid.... | Valid... | (switch...
2 | 10 | 39 | | Valid... | 2_5
2 | 11 | 40 | Valid..... | Valid... | 2_5
2 | 15 | 37 | | | (switch...
.....
93
94
92
91
Processes
80
Process | ProcessName
1 | new corporate Customer
2 | new private Customer
3 | modify corporate Customer
4 | modify private Customer
5 | Customer Support
6 | corporate local Number Portability
7 | private local Number Portability

Figure 10

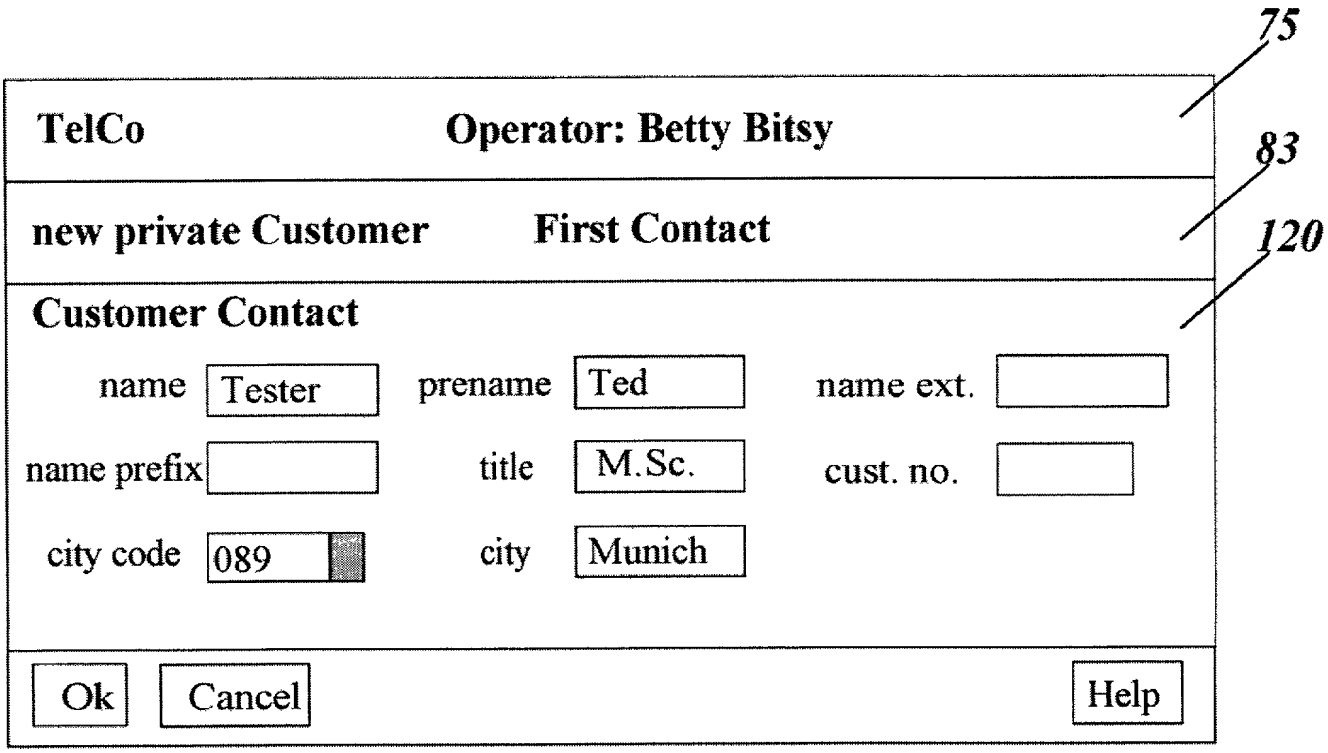
75
TelCo
Operator: Betty Bitsy
83
new private Customer
First Contact
120
Customer Contact
name
Tester
prename
Ted
name ext.
name prefix
title
M.Sc.
cust. no.
city code
089
city
Munich
Ok
Cancel
Help

Figure 11

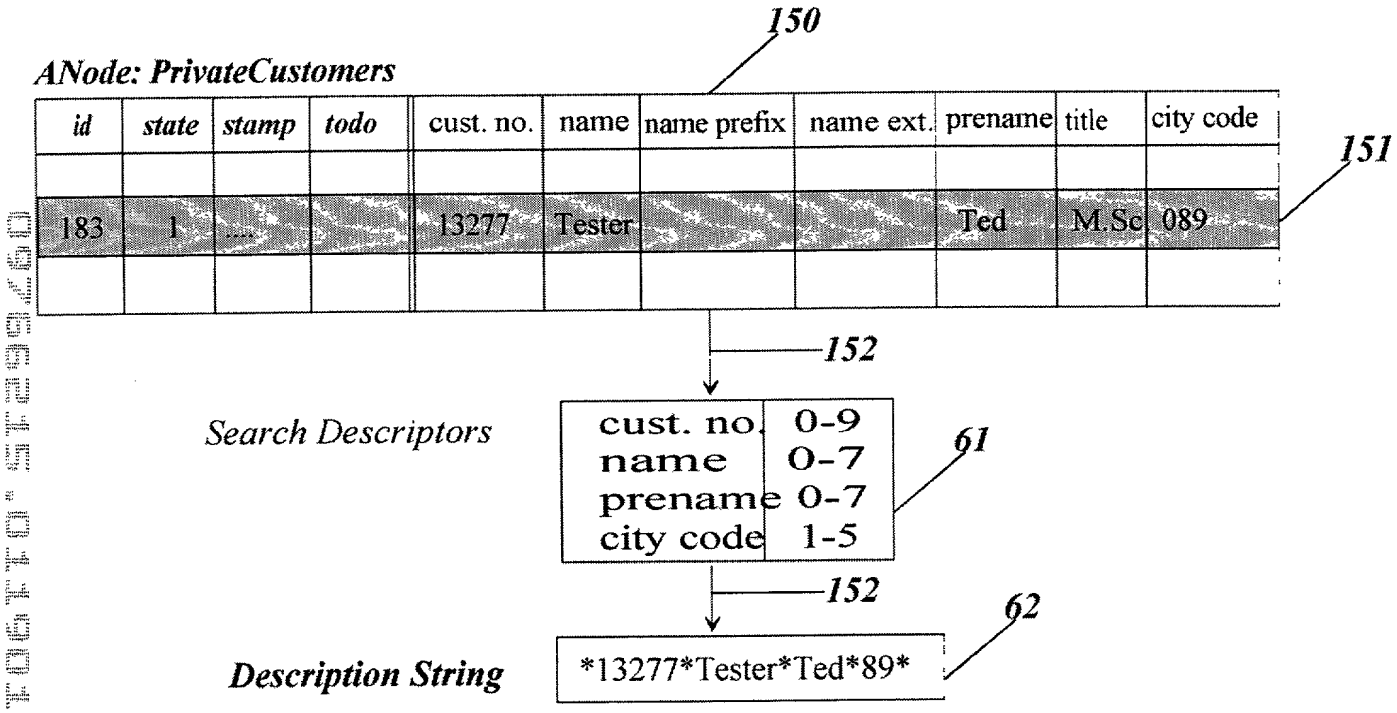
150
ANode: PrivateCustomers
id
state
stamp
todo
cust. no.
name
name prefix
name ext.
prename
title
city code
151
183
1
13277
Tester
Ted
M.Sc
089
152
Search Descriptors
cust. no.
name
prename
city code
0-9
0-7
0-7
1-5
61
152
62
Description String
*13277*Tester*Ted*89*

Figure 12